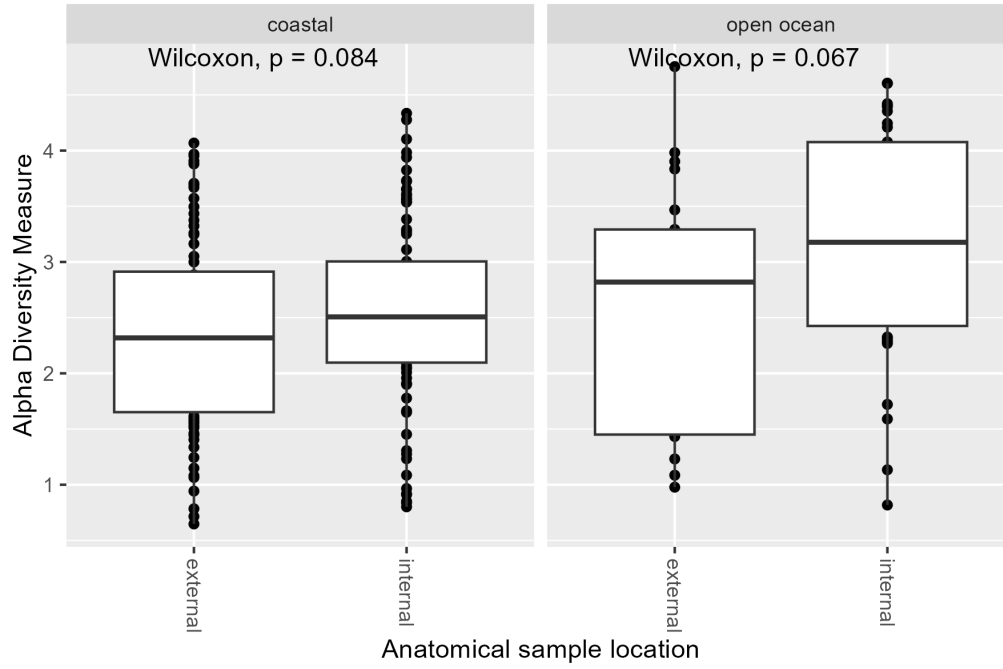
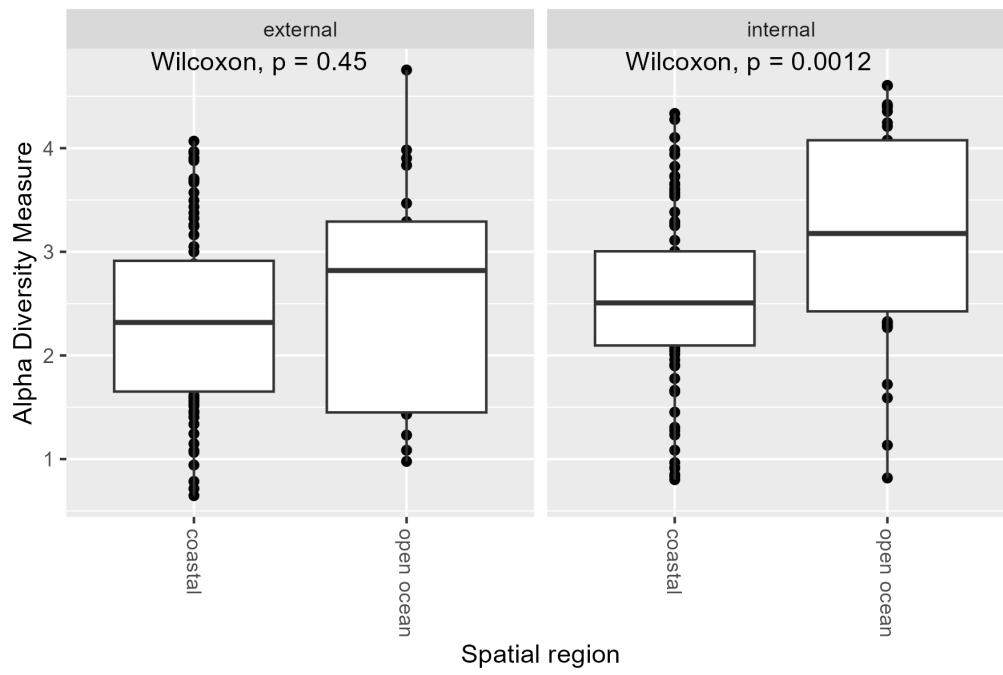


# SUPPLEMENTAL FIGURES/TABLES

**A**

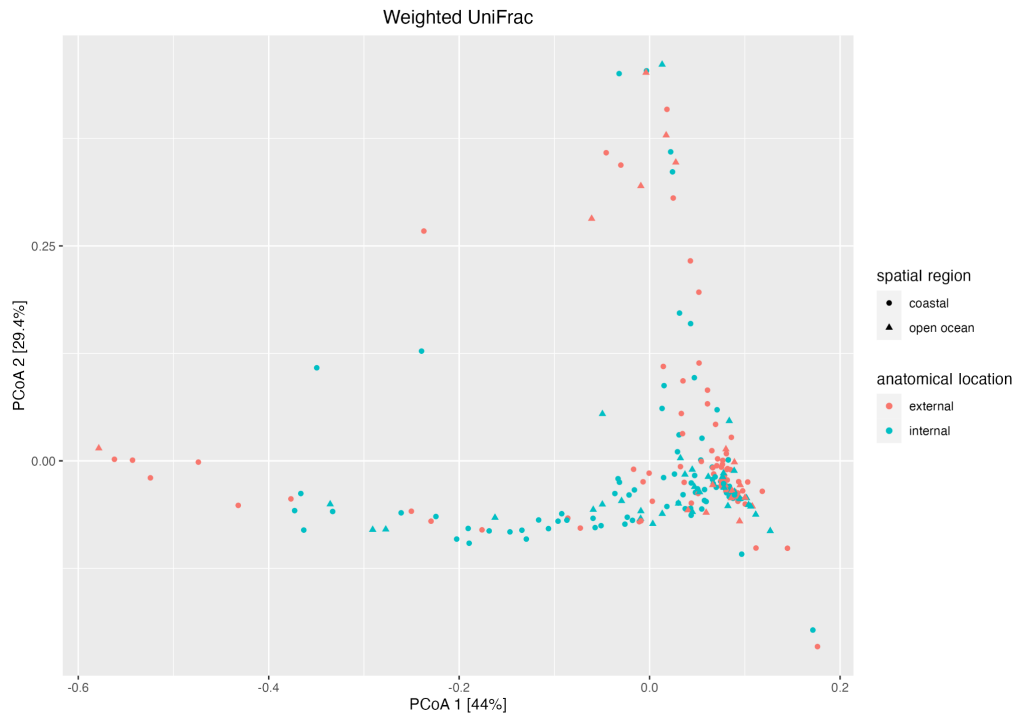
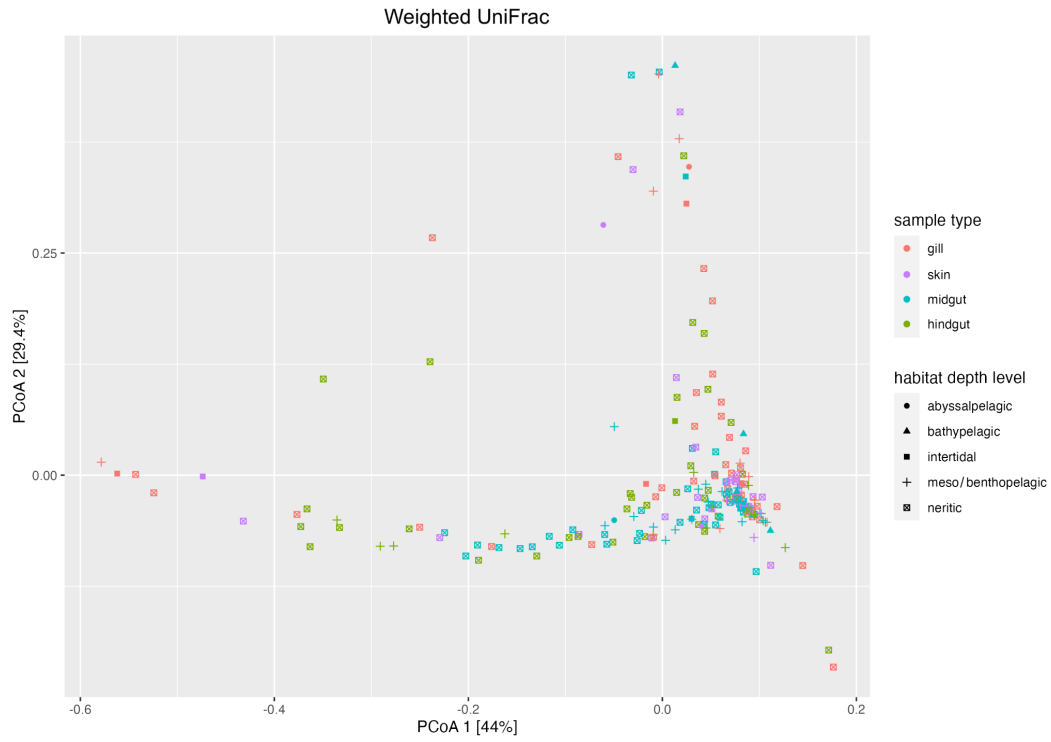


**B**



**Supplemental Figure 1. Internal sample microbial richness diversity is impacted by spatial region changes.** (A) Shannon alpha diversity analysis of anatomical sample location faceted by spatial region shows no significant differences in microbial richness. (B) Shannon alpha diversity analysis of spatial regions faceted by anatomical sample location shows that internal samples have significant differences in microbial richness, but not external. Significant differences between sample categories calculated with Wilcoxon rank sum tests with Bonferroni correction.

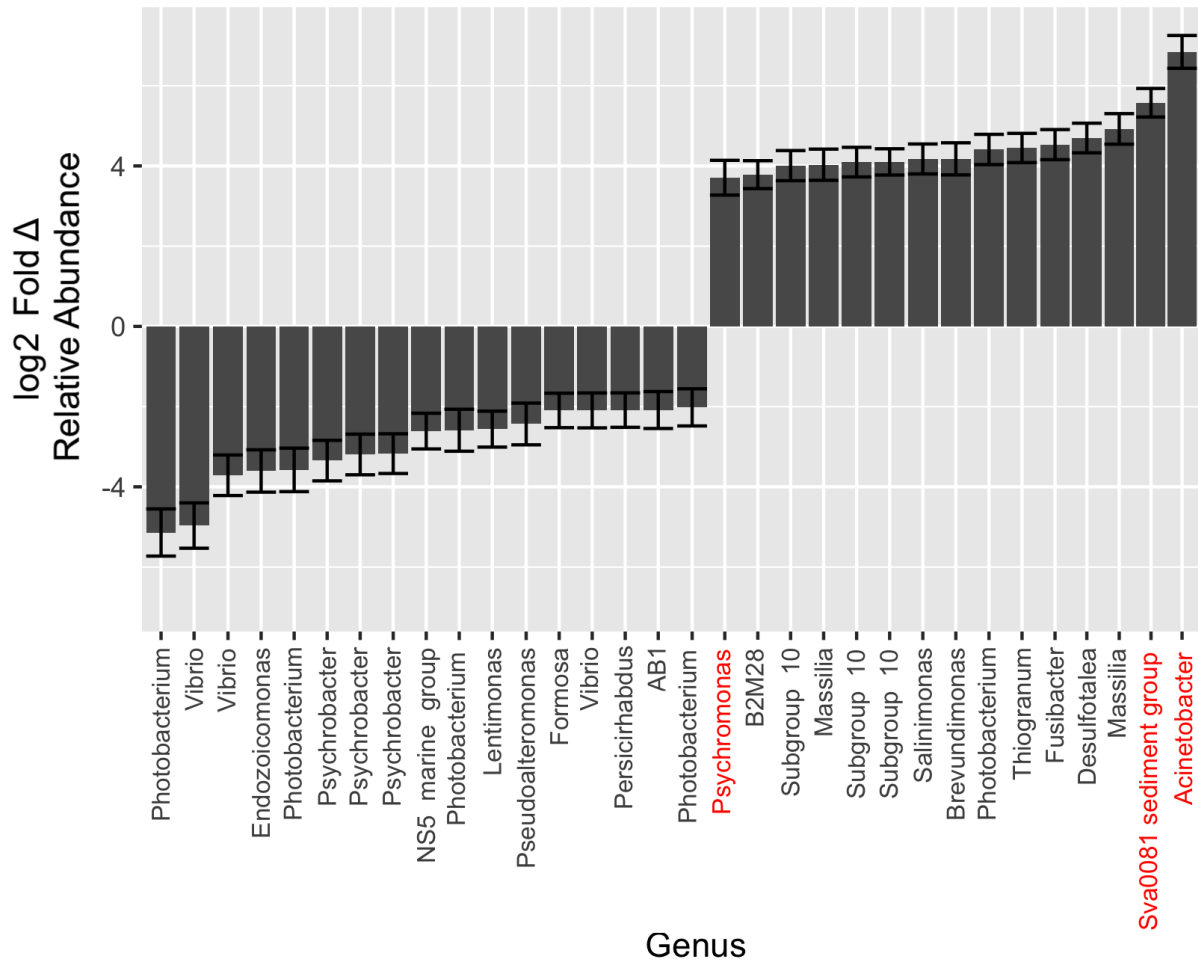
\* $P < 0.05$ ,  $P_{\text{adjusted}} < 0.013$ .

**A****B**

<b>PERMANOVA</b>	<b>df</b>	<b>SS</b>	<b>R2</b>	<b>pseudo-F</b>	<b>p-value</b>
Anatomical location	1	0.1192	0.01235	2.7509	0.030*
Sample type	3	0.3360	0.03481	2.6302	0.007**
Spatial region	1	0.0739	0.00765	1.7049	0.138
Habitat depth level	4	0.2745	0.02843	1.6112	0.095

**Supplemental Figure 2. Anatomical region and sample type, but not spatial region or habitat depth, are predictors of beta diversity quantified by weighted UniFrac.** (A) and (B) PCoA analysis of variation based on weighted UniFrac distances between microbial communities in all samples. (C) Statistical significance was determined by PERMANOVA. Number of permutations = 999. \* $P < 0.05$ , \*\* $P < 0.01$ .

## Open Ocean Internal vs Coastal Internal



### Supplemental Figure 3. Significantly higher abundances of *Psychromonas*, Sva0081

Sediment Group, and *Acinetobacter* in the open ocean internal microbiome compared to

coastal internal identified by DESeq2. The y-axis shows the log<sub>2</sub>-fold change, the x-axis shows

the differentially abundant taxa from the open ocean internal microbiomes compared to the

coastal internal microbiomes. The same *Psychromonas*, Sva0081 Sediment Group, and

*Acinetobacter* seen in the core microbiome analysis are seen increased here, highlighted in red.

Significance at  $P < 0.05$ .